Building a computer lab in the Andean Foothills: Rural school capacity building for quality education and long-term food security

Margot Charette at the inauguration of a school.

Huantapita, Bolivia

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Project Overview

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Department: Environment

Organization: Comunidad Educativa Flor de Montaña

Location: Samaipata, Bolivia

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Fellowship Duration: May 1st –August 15th

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Fellowship Rationale and Objectives

Comunidad educativa Flor de Montaña is an organization which developed following Bolivia's new educational reform. Among many objectives focusing on ensuring a sustainable future, the new educational reform encourages schools to form 'productive communities'. Forming a productive community means creating cells (group of individuals with common interests) which are self-sustaining, in a manner which is respectful for people and the environment. The idea of focusing on sustainability is key to avoid environmentally destructive practices which lead to ecosystems degradation and in the long term, food insecurity (among many consequences).In Flor de Montaña, the idea of a productive community is at work as kids work in the ecological gardens, produce artisanal goods to sell, and learn a curriculum focusing on environmental, social and economic sustainability.

My project focused on capacity building at the school, more precisely on the development of a computer lab. Having computers and teaching kids how to use them is key to enhance the academic endeavors of the school. Thus, using technology to do research for school projects and to support the administrative work related to the school ensure the sustainability of the school's primary goals: to promote an education which addresses ecological production of foods and community work.

Background: issues faced by the community

Issues faced currently by the rural town of Samaipata include limited access to high-level and high-quality education. Right now, there are three primary schools in Samaipata, and only two secondary schools (this includes Flor de Montaña which receives both primary and secondary-level children). There is limited capacity to teach youth who are twelve years or older. As kids reach secondary level education, few still find it relevant to be at school and many drop out to start working. As a result, the town finds itself with an overload of uneducated labour force. On the other hand, teenagers have few work opportunities given their limited general knowledge and capacities. Low education levels perpetuate poverty, poor health outcomes and lack of access to information and new technologies which are all serious concerns in Samaipata.

Activities

Goals

The main goal I had established before leaving and which I kept throughout my internship was to develop a computer lab at Flor de Montaña in Samaipata. I first visited Bolivia in 2012, and have kept in touch with the school's founders since. They set this goal long before I arrived. Flor de Montaña is now the first school in Samaipata to have access to computers and to the internet. 'Building the computer lab' meant much more than I initially thought and it took longer than planned, but I can say that, because we worked as a team of many interns, volunteers, professors and administrators, we achieved this objective and even more. Through the development of the school's computer lab, we sought to address the need for ease of access to information for both students and teachers. With better informed citizens pursuing an education focusing on

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sustainability, we believed that long-term goals such as improved agricultural production can lead to food security. Our hope is that through this initiative, the concept of productive communities and shared responsibilities is taking root in Samaipata.

Actual outcomes and activities

I believe that the presence of computers as tools to help research and also keep track of administrative issues is beneficial to any organization and this precisely turned out to be crucial for the development of Flor de Montaña. As it is still in its early development, the school needs strong organization to achieve key elements that represent turning points for the organization. Prior to my arrival, several goals were identified by the organization, including: recognition of the school's secondary transcripts at the national level, rigorous and transparent organization to keep track of the students' grades and achievements, and managing the school's budget. We tried to address these gaps through computer workshops offered to teachers and members of the administration. We achieved many of our goals through these workshops, such as the design of templates for transcripts, schedules, attendance sheets, library sign out sheets and students personal information. Additionally, we taught teachers as well as students how to use excel, word and many other educational programs. The participation of teachers in the workshops was crucial because it ensured the sustainability of our project. Teachers are now ready to share what they learned with their students.

While my main objective was clear before leaving Montréal, I had other goals that seemed reasonable, such as helping design a few organic gardens. The reality turned out to be quite different. As the school is currently placed on a rented lot, planning long-term gardens wasn't such a good idea. It is likely that the school will buy a lot somewhere else in the next year or so, at which point it would be relevant to design long-term production and organization of organic gardens. However, during the time I was working at the school, the math teacher asked me to help him with the secondary-level classes and since I have a strong interest and background in math, I was more than happy to help where it was needed.

In the end, I ended up doing many activities that I didn't plan to do (build furniture for classes, replace teachers if they were sick, teach math for the older students, help with the community tasks, etc.) and didn't do some things which I thought I would do (design a plan for organic garden production, for example). But instead of being frustrating, these changes made me understand that a volunteer has to be very flexible and adapt to the urgent needs of an organization. If not, the volunteer becomes an additional weight for the community. Responding to these needs and establishing goals that are relevant for the organization are what is most useful. In the end, I was more than happy to be busy with all kinds of school activities. This way I felt part of the

educational community and I also felt sincere recognition from children and their families, which made me proud and satisfied with my project.

Challenges and successes

Questions raised during my internship: what worked and what didn't?

Sometimes, I couldn't understand why things were going slowly; why were we taking such a long time to decide what computers to buy, why was it complicated to get people together to renovate the room which would serve as a computer lab? It took me a while to understand the order of things, but I finally noticed that there were urgent needs that needed to be fulfilled before undertaking the computer lab project. More than this, I had to take initiative and help where I felt it was needed (this is how I ended up teaching math, for example). Buying the computers and organizing people to help on the renovation of the actual computer lab happened when people felt ready and when we obtained trustworthy contacts who could give us advice on what needed to be purchased for our lab, which type of computer was most adapted for our needs and more importantly where to purchase all of the supplies. Successes happened through key contacts, particularly with Guillermo- our computer technician. But even more importantly, successes happened as we started working as a team. The project wasn't only mine, and I had various collaborators (the director, another intern and teachers) the whole time who contributed to this project and as everyone worked with what they were best at, we achieved much more than what we had initially thought we could achieve.

I faced challenges that are related to personal biases which affected my expectations. In other words, I didn't expect many of the challenges I faced simply because I am not from Samaipata and I didn't know the details of the town's reality. For example, I didn't know that it wasn't a simple thing to get connected to the internet in the town. Infrastructure for internet in the region is very old and the only way to get connected is through a 3G USB device. This brought about many challenges: How to connect many computers with only one USB device? How to get this USB device if its distribution had been discontinued in the region? This is just one example of the challenges I faced, which were resolved with time, patience and help from key players. Trying to rush people to make things happen didn't work. As much as I would have liked to get the internet connection early, the wisest thing was to give it time: Time to connect with key stakeholders, to figure out innovative ways to counter problems we were facing and to understand cultural and perceptional differences.

Another more general example, of 'things that didn't work' is the attitude of having fixed expectations. As I had an idea of my project before leaving for Bolivia, having new/different tasks

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was sometimes surprising or destabilizing because I would be stressed about fulfilling my previously determined goals. But in the end, I not only fulfilled my initial goals, but also did many more things which were not planned and that made me feel even more satisfied with my time spent in Samaipata.

What did I learn?

Even if it wasn't my first experience in Latin America, I learned a lot about cultural dynamics here in Bolivia. Rather than simply acknowledging that a different culture than mine existed, I learned to live in harmony with it and to respect its different aspects. I was able to find ways to connect my point of view with one that wasn't intuitive to me. I believe this helped me become a more tolerant and patient person.

I also learned about the many challenges that the organization I worked with faced. I came to understand the level of dedication and idealism required to undertake such a grand project. I learned that changes take a great deal of time in a rural town that isn't used to more 'modern' ideas about education. This made me reflect a lot and made me respect the people I was working with because they are a group of change-makers who have high ideals.

I am not sure how I would do things differently if I was to do this internship again. I think my experience is very fresh and I will need a long time to reflect on what we have done, on the school itself and the people I was working with. Maybe one thing I would change is to stress a little bit less. Trust that things will happen when they have to happen. But again, it is difficult to say this as I still feel immersed in the project.

Training/mentoring on site and from McGill-role

The most useful training I obtained was on site. With people from the community, I learned how to interact with kids, how to work as a team, and more practically, how to organize a computer lab in a totally different setting than the one am I was used to. I also learned how to teach computer use effectively to people who are completely unfamiliar with computers. Mentorship I received from McGill from Hugo Melgar-Quinonez and Humberto Monardes helped me to prepare for my internship beforehand and get ready for potential challenges that I would face while being in Samaipata. They also helped me to connect with more people who might be interesting collaborators for the school in the future. The most precious resource I had though were the people on site. People who collaborated with me for the whole duration of the project, allies that I met along the way as well as my supervisors. Working as a team was the most powerful force to effectively troubleshoot, stay motivated and make things happen.

Community implications and further work

I have done many internships in the past and I feel that this one is the most 'useful' in the sense that it will benefit most people in both the short and long term. Having a computer lab at the school will be good in the short term to support kids, their families and the administration in their daily tasks. In the long term, computers provide an advantage for the school to attract more

students, generate more revenue and cover its operating costs. Providing Flor de Montaña with new computers will benefit youth in Samaipata because it will help them access information and attain higher educational levels. This way, kids who would have been discouraged by the lack of opportunities in Samaipata might be attracted by Flor de Montaña's higher-level, alternative way of learning. I believe that this has limitless benefits for youth in Samaipata as they are given the possibility to break the usual cycle of dropping out from school. In addition, the fact that the computer lab is present in a school which favors sustainable practices offers a promising future for ecological management practices in all areas of the town. Finally, citizens informed by Flor de Montaña's sustainability-focused curriculum will be aware of their immediate environment and hopefully undertake jobs and projects with a high level of consciousness regarding environmental cycles and sustainability.

How to translate my findings into policy action; what works?

I have been reflecting a lot during my internship about the effects of policy in Samaipata. With the new educational reform in Bolivia, one might think that this very progressive political change would revolutionize schools while making them more modern, environmentally focused and working as productive communities. But in reality, only a few schools have taken the lead to follow the guidelines of this educational reform. Only a few institutions are willing to leave behind their well-established way of teaching for a more progressive, sustainably focused curriculum. I believe that if Bolivia is serious about an educational reform focusing on sustainability, it needs to provide support (in terms of volunteers, teachers, educational material, infrastructure, etc.) to small rural educational institutions where resources are extremely limited and change is therefore harder to achieve.

Does this mean that policy isn't connected with reality? Maybe not, but it does mean that there are a lot of resisting forces against change. Rather than top-down policy action, bottom-up forces should be the ones creating the policies that local communities need and are able to implement. For example in Samaipata, it takes numerous town meetings and informal communications for the community to accept and act towards change. This is precisely what Flor de Montaña is working towards, but this process takes time and rather than new policies, it needs ways to implement change and ensure that schools with innovative curricula have a network of support that can ensure their success.

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Advice for Future Fellows

Know your organization well before you leave. Contact them, listen what they have to say and ask what they need. Take initiative if you feel it is well received and be flexible if things don't happen always on time. In relation to being in a foreign country in general: make sure you make someone you trust legally co-responsible for your bank account in Canada in case you lose your bank cards. If you don't, no one can send you money from your own bank account. Also on a technical note: do not put all your personal documentation (passport, cards, money...) in the same place; losing one would be losing all of them at the same time.

How did this fellowship further your academic or career goals?

This internship greatly furthered my understanding of the importance of social networks in the specific small rural community of Latin America where I worked. Now, I do know that social networks and dynamics can change drastically from one community to another, but I do think that by having spent a lot of time in rural communities in Bolivia I feel more ready to start my Master's program this Fall. My research will focus on health outcomes of given communities in the Peruvian Amazon and will involve several weeks of fieldwork. I am extremely thankful I was able to come to Bolivia before starting further academic work in Latin America because doing this internship gave me critical insights on how to live in a community and how to take initiative while respecting a place's norm and habits.

What did you value most about the fellowship?

I learned most about the concept of differing perception of similar events. I learned that my way of seeing life, efficiency, family and friends was very culturally shaped. Actively realizing this allowed me to open up to different perceptions such as those of my colleagues and friends who had different rhythms of life and aspirations. I believe that I was able to grow a lot as a person by learning to relativize my perception of time, for example, and this was necessary to maintain a good attitude throughout my internship. I value this lesson because it made of me a person who is more culturally sensitive and tolerant towards others.

How useful was it to interact with other fellows?

Very, very useful! I had left early in April for Bolivia, so I didn't get a chance to meet other fellows in person, but during the summer, we were able to exchange emails regarding our respective experience. Even if sometimes it was hard for me to get in touch with everyone (limited internet access), I was so happy to read updates from other fellows, especially if I saw that we were facing similar challenges In these moments, I felt that few people would understand my frustrations or stress but sharing the same worries as my colleagues' in other Latin American countries made me feel supported by a network of people doing similar projects and feeling similar things.

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Any suggestions for how to improve the program?

Something that I appreciate a lot about the McBurney fellowship program is its focus on the sustainability of an intervention. I really appreciated that the program requested potential fellows to know their organization in detail and ensure the continuity of their project. Personally, it made me reflect deeply about the sustainability of my interventions and goals throughout my internship. I believe this encourages a certain maturity because it allows people to 'go in the field' while being more involved with their project and colleagues than if they would go for a short time, come back and not stay connected with the organization. I think that this should remain a focus of the program, because it allows interns to experience more in depth their project and be useful in a given place.

Maybe something interesting that could happen in the future is to connect McBurney fellows with the Arts (or Science) Internship Office. Successful internships should be advertised by the AIO to encourage other McGill students to keep working with interesting and promising organizations on similar projects. This might also have a positive effect on the sustainability of the work of an intern in Latin America..